

### REMARKS

Claims 1-24 are pending and stand rejected. All pending claims, as amended, as well as the newly added claims are believed to be allowable over the references cited by the Examiner as discussed below. Accordingly, a Notice of Allowance for the present application is respectfully requested.

#### Title

The title was objected to by the Examiner as being non-descriptive. The title has been amended to address the objection raised by the Examiner. Accordingly, it is believed that the title as amended is clearly indicative of the invention to which the claims are directed.

#### Rejection Under 35 U.S.C. §102(b)

Claims 1-2 and 13-14 stand rejected under 35 U.S.C. §102(b) as being anticipated by Faillon et al. Applicants respectfully disagree.

Claim 1, for example, recites a device for generating a *plurality* of electron beams that comprises a source of radiation, a modulator, and a photocathode that receives modulated radiation and *produces a plurality of electron beams under impact by the modulated radiation*. Generation of a plurality of electron beams facilitates in increasing throughput and/or efficiency. This is noted in the specification as filed at, for example, page 1, lines 14-15 and page 8, lines 27-31.

The Examiner asserts that Faillon discloses an electron gun having a luminous source modulated by optical modulator and a photocathode which receives the modulated radiation. However, Faillon makes no mention of the photocathode as receiving modulated radiation and producing a *plurality of electron beams* under impact by the modulated radiation. As Faillon neither discloses nor suggests generation of a *plurality of electron beams*, Faillon fails to anticipate the invention of claim 1 and a prima facie case of 102(b) rejection has not been made.

Similarly, independent claim 13 recites a method of producing a plurality of electron beams that comprises directing radiation onto a modulator and directing the modulated radiation onto a photocathode thereby producing a plurality of electron beams. Again, because Faillon makes no mention of the photocathode as receiving modulated radiation and producing a *plurality of electron beams* under impact by the modulated radiation, Faillon fails to anticipate

the invention of independent claim 13 and a prima facie case of 102(b) rejection has not been made.

In view of the foregoing, withdrawal of the rejection of independent claims 1 and 13 as well as claims 2 and 14 dependent variously therefrom under 35 U.S.C. §102(b) is respectfully requested.

### **Rejections Under 35 U.S.C. §103**

Claims 4-12 and 16-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable. In particular, claims 7-9 and 19-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Faillon. In addition, claims 4, 10, 16, and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Faillon in view of Taft et al. and claims 5-6, 11-12, 17-18, and 23-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Faillon in view of Gutin et al.

Applicants respectfully disagree. Dependent claims 2-6 and 14-18 are believed to be allowable at least because the independent claims 1 and 13 from which they variously depend are allowable as discussed above.

In addition, independent claim 7 recites an electron beam lithography system that comprises (a) a radiation source, (b) a modulator, (c) a photocathode that receives modulated radiation from the modulator and *produces a plurality of electron beams* under impact by the modulated radiation, and (d) an electron beam optical column to receive the plurality of electron beams and to direct the plurality of electron beams onto a target.

Similarly, independent claim 19 recites a method of performing lithography with multiple beams of electrons that comprises (a) directing radiation onto a modulator, (b) directing modulated radiation onto a photocathode to produce *a plurality of electron beams*, and (c) directing the plurality of electron beams onto the acceptance region of an electron beam optical column.

As discussed above, Faillon makes no mention of the photocathode as receiving modulated radiation and producing *a plurality of electron beams*. Thus, Faillon neither discloses nor suggests, either alone or in combination with Taft et al. and/or Gutin et al., generation of a plurality of electron beams, a prima facie case of 103(a) rejection has not been made and independent claims 7 and 19 are believed to be allowable.

In view of the foregoing, withdrawal of the rejection of claims 4-12 and 16-24 under 35 U.S.C. §103(a) is respectfully requested.

**Version of Amendments With Markings to Show Changes Made**

In the title, please amend the title as follows:

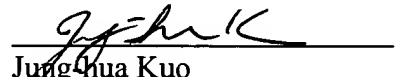
[Spatial Light] Modulator Driven Photocathode [Source] Electron Beam [Pattern] Generator

### CONCLUSION

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-1217 (Order No. AMATP010).

Respectfully submitted,

  
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